State Program Sites

ELMENDORF AIR FORCE BASE, ALASKA

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Active Source Areas: ST32, ST36, ST47, ST48, ST61, ST64, ST65, ST66, ST68, ST69, ST70, ST71, ST72, ST74, ST75, ST76, ST77, ST79, SS35, SS43, SS49, SS50, SS55, SS57, SS62, SS80, PL81.

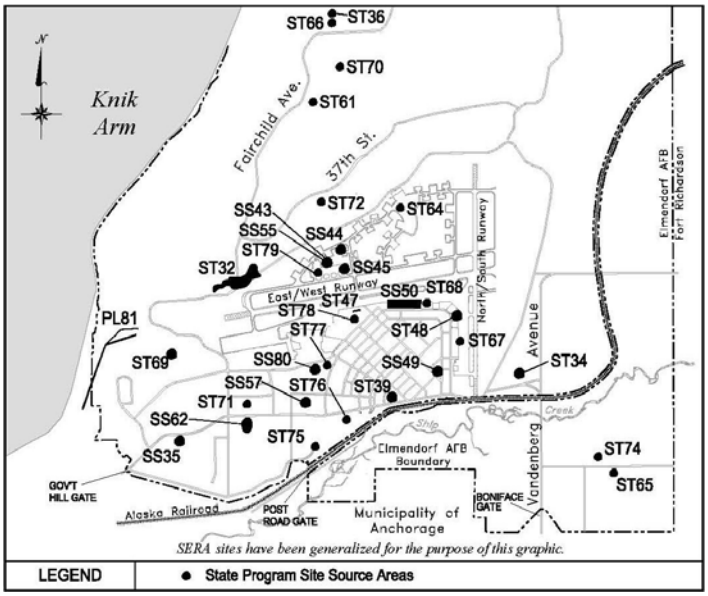
Closed Source Areas: ST34, ST39, ST67, ST78, SS44, SS45, SS51.

Contaminant Sources: Leaking underground storage tanks, spills at underground storage tanks, petroleum, oil, and lubricants releases.

Media Affected: Groundwater, soil.

Contaminants of Concern: Fuel, fuel-related chemicals.

Status: Groundwater monitoring is being performed throughout these sites and bioventing is being conducted at a limited number of locations. Land use controls restrict use of shallow groundwater.



State Program Sites Overview

Under the State-Elmendorf Environmental Restoration Agreement signed in October 1992 by the U.S. Air Force and the Alaska Department of Environmental Conservation, Elmendorf Air Force Base is conducting the investigation and cleanup of 34 source areas contaminated primarily with petroleum, oil, and lubricants. Site assessment work at these source areas has been addressed in several phases as follows: Phase 1 sources beginning in 1993; Phase II, beginning in 1994; and Phase III, beginning in 1995. Grouping of the sources into the phases was based on an evaluation of several criteria, including perceived risk to humans and the environment. The three phases are now viewed together, and the affected source areas are collectively referred to as the "State Program Sites."

Key Milestones

ACTIVITY	*DATES*
State-Elmendorf Environmental Restoration Agreement Signed	October 1992
ST32 Underground Storage Tank Removal	November 1993
Phase 1 Site Assessment	February 1994
Phase 2 Site Assessment	July 1995
Phase 3 Site Assessment	October 1996
Phase 1 Corrective Action Plan	April 1995
Phase 2 Corrective Action Plan	December 1995
Phase 3 Corrective Action Plan	November 1996
ST32 Pipeline Removal	February 1998
PL81 Pipeline Removal	October 1998
Soil Removal at SS80	August 2000

Site Description

Location: The 34 State Program Site source areas are located throughout Elmendorf Air Force Base.

Contamination Overview: Following investigation efforts at these sites, Site Assessment Reports were prepared for the State Program Sites. Seven of the 34 source areas—ST34, ST39, ST67, ST78, SS44, SS45, and SS51—have been approved for no further action by the State of Alaska.

Contaminants of Concern

Contaminants associated with the State Program Sites are fuel and fuel-related chemicals. Diesel-range organics, gasoline-range organics, benzene, and ethylbenzene are the primary contaminants of concern at these 27 active State

Program Sites. They appear in varying concentrations in groundwater and soil.

Groundwater: Contaminants of concern in groundwater at the State Program Sites have, at most sites, undergone a significant decrease since groundwater monitoring activities began. Fuel-related compounds will naturally attenuate if given enough time for natural processes to occur. Examples of this trend may be found at PL81, ST68, and ST69. At PL81, benzene concentrations have decreased from 337 micrograms per liter in 1994 to 31 micrograms per liter in 2003. At ST68, benzene concentrations have decreased from 2,600 micrograms per liter in 1995 to 5.3 micrograms per liter in 2002. ST69 has seen a decrease in benzene concentrations from 240 micrograms per liter in 1993 to 6.1 micrograms per liter in 2002. There are also a few State Program Sites that have exhibited a more modest decrease in contaminant of concern concentrations. An example of this slower decrease may be observed at site SS43, where benzene levels were 37 micrograms per liter in 1998 and 24 micrograms per liter in 2003.

In spite of the varying rates of natural attenuation, the concentrations of contaminants of concern at the State Program Sites continue to decrease. Groundwater monitoring will be ongoing to verify this trend continues.

Soil: Contaminants of concern in soil at ST68, ST32, ST36, ST66, SS43, and SS55 are being treated by bioventing (introducing air to the subsurface to aid biological breakdown of contaminants). Bioventing processes have lowered concentrations of contaminants of concern at these locations. Soil sampling efforts routinely occur at these sites to verify performance of the treatment systems. These sampling results are evaluated and the operation of these systems is adjusted accordingly to improve their effectiveness.

Soil sampling will be performed at scheduled intervals in the future to verify contaminant of concern concentrations continue to decline at the State Program Sites.

Potential Pathways and Receptors

Under current site use, direct exposure to contaminated groundwater is not possible because land use controls prohibit the use of the shallow groundwater. Land use controls are in place to prevent future use of water in the shallow aquifer, which would prevent future exposure to any possible contamination. Groundwater does not surface as surface water seeps in or near any of the State sites. Groundwater from most of the source areas flows toward Operable Unit 5, north of Ship Creek. At Operable Unit 5, a groundwater-monitoring program is in place to evaluate the flow of contaminants from upgradient locations into Ship Creek. Previous investigations of Ship Creek show that groundwater contamination is not affecting the creek.

Contamination is present in the deep soils, however, a complete pathway for exposure to deep soil contamination does not exist since it would require excavations or some other below ground surface work for an exposure potential to exist. No potential pathways or routes through which people or the environment may be exposed to State Program Site contaminants are believed to exist.

Summary

Site assessments have been conducted and findings have been reported for the State Program Sites. Groundwater monitoring is being conducted at all active State Program Sites. Bioventing is being conducted at select sites, and has significantly lowered contaminant concentrations where it has been employed.

Information Repositories

Documents associated with these project activities are available for public review at:

Elmendorf Library
3rd Services Squadron
10480 22nd Street
Elmendorf AFB, AK 99506
(907) 552-3787

Alaska Resources Library & Information Services (ARLIS)
3211 Providence Drive
Anchorage, AK 99508
(907) 272-7547

For additional information, please contact 3rd Wing Public Affairs by telephone at (907) 552-8970, or at 10480 22nd Street, Suite 118, Elmendorf AFB, AK 99506-2500.